

3.3

Modeling More Multiplication Situations



TEKS / TAKS

6(12)A Communicate mathematical ideas using language, efficient tools, and physical or algebraic mathematical models.

In this problem, you will work with multiplication situations that use fractions, whole numbers, and mixed numbers. It is helpful to estimate first to see if your answer makes sense.

Getting Ready for Problem 3.3

Estimate each product to the nearest whole number (1, 2, 3, ...).

$$\frac{1}{2} \times 2\frac{9}{10}$$

$$1\frac{1}{2} \times 2\frac{9}{10}$$

$$2\frac{1}{2} \times \frac{4}{7}$$

$$3\frac{1}{4} \times 2\frac{11}{12}$$

Will the actual product be greater than or less than your whole number estimate?

Problem 3.3 Modeling More Multiplication Situations

For each question:

- Estimate the answer.
 - Create a model or a diagram to find the exact answer.
 - Write a number sentence.
- A.** The sixth-graders have a fundraiser. They raise enough money to reach $\frac{7}{8}$ of their goal. Nikki raises $\frac{3}{4}$ of this money. What fraction of the goal does Nikki raise?
 - B.** A recipe calls for $\frac{2}{3}$ of a 16-ounce bag of chocolate chips. How many ounces are needed?
 - C.** Mr. Flansburgh buys a $2\frac{1}{2}$ -pound wheel of cheese. His family eats $\frac{1}{3}$ of the wheel. How much cheese have they eaten?

- D. Peter and Erin run the corn harvester for Mr. McGreggor. They harvest about $2\frac{1}{3}$ acres each day. They have only $10\frac{1}{2}$ days to harvest the corn. How many acres of corn can they harvest for Mr. McGreggor?



ACE Homework starts on page 40.

3.4 Changing Forms



TEKS / TAKS

6(1)B Generate equivalent forms of rational numbers including whole numbers and fractions.
6(13)B Validate conclusions using mathematical properties and relationships.

You have developed some strategies for modeling multiplication and finding products involving fractions. This problem will give you a chance to further develop your strategies. Before you begin a problem, you should always ask yourself: “About how large will the product be?”

Getting Ready for Problem 3.4

Yuri and Paula are trying to find the following product.

$$2\frac{2}{3} \times \frac{1}{4}$$

Yuri says that if he rewrites $2\frac{2}{3}$, he can use what he knows about multiplying fractions. He writes:

$$\frac{8}{3} \times \frac{1}{4}$$

Paula asks, “Can you do that? Are those two problems the same?”

What do you think about Yuri’s idea? Are the two multiplication problems equivalent?